This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) In a process for synthesis of hydrocarbons comprising conducting a Fischer-Tropsch reaction starting from a synthesis gas, in a reaction zone (1) containing a reaction medium at a predetermined pressure and temperature, said reaction medium comprising said synthesis gas and a catalyst in a fluidized bed and operating in three-phase fluidization, and a boilable coolant is circulated in at least one heat-exchange zone (2) internal to the reaction zone and immersed within said fluidized bed, the improvement wherein the boilable coolant is introduced into the heat-exchange zone (2) at a temperature close to the boiling point of said coolant at the pressure of the reaction medium, said boiling point being in a range of 10 to 70°C below the temperature of the reaction medium, and

2. (Previously Presented) A process for hydrocarbons synthesis according to claim 1 wherein the pressure of the reaction medium is between 20 and 60 bar, bar, and the temperature of the reaction medium is between 200 and 250°C.

3. (Currently Amended) A process for hydrocarbons synthesis according to claim 1 wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or mixtures thereof.

4. (Previously Presented) A process for hydrocarbons synthesis according to claim 3 claim 1, wherein the coolant introduced in the heat-exchange zone (2) comprises water in a proportion of less than 85% by weight of said coolant.

5. (Previously Presented) A process for hydrocarbons synthesis according to claim 1 wherein the heat-exchange zone (2) comprises an immersed heat exchanger comprising a tube bundle having a heat exchange surface density between 10 and 30 m^2/m^3.

6. (Previously Presented) A process for hydrocarbons synthesis according to claim 1 wherein the coolant is introduced at least in part in the liquid state into the heat-exchange zone (2) and is partially vaporized in said zone, the resultant vapor is condensed at least in part in at least one condensation zone (8), and the liquid phase resulting from the said condensation is recycled at least in part into the heat-exchange zone (2).

7. (Previously Presented) A process according to claim 6 wherein the condensation zone (8) comprises a liquid/vapour separation zone (5), the partially vaporized coolant is passed into the separation zone (5), a gas phase (6) is recovered which is condensed in the condensation zone (8), and a liquid phase (7) which is recycled with the liquid phase originating in the zone (8) into the heat-exchange zone (2).

8. (Previously Presented) A process according to claim 7 wherein the coolant-condensing zone (8) comprises a tube bundle using water as coolant, a vapour phase of which, extracted at the top of the said tube bundle, is condensed in a separation zone (13) situated above the condensation zone (8), and a liquid phase of which is drawn off from the separation zone (13) and recycled into the tube bundle of the condensation zone (8).

9. (Original) A process according to claim 7 further comprising expanding a vapour phase of the coolant recovered from the separation zone (5) in at least one turbine (24), subjecting the thus-expanded liquid/vapour mixture cooling and condensation; separation the liquid phase of the thus-obtained coolant and recycling the separated liquid phase into the condensation zone (8).

10. (Original) A process according to claim 1 wherein the temperature of the reaction medium is controlled by means of a dynamic control system acting on the pressure or on the flow rate of the coolant, so as to remain on the chosen operating point.

11. (Previously Presented) A process according to Claim 1 wherein said boiling point is 15 to 60°C below the temperature of the reaction medium.

12. (Previously Presented) A process according to Claim 2 wherein the pressure of the reaction medium is between 30 and 50 bar and the temperature of the reaction medium is between 220 and 240°C.

13. (Previously Presented) A process according to Claim 4 wherein the coolant comprises less than 70% by weight of water.

14. (Currently Amended) A process for hydrocarbons synthesis according to Claim 2, wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or - mixtures thereof.

15. (Currently Amended) A process for hydrocarbons synthesis according to Claim 4, wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or - mixtures thereof.

16. (Currently Amended) A process for hydrocarbons synthesis according to Claim 11, wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or - mixtures thereof.

17. (Currently Amended) A process for hydrocarbons synthesis according to Claim 12, wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or - mixtures thereof.

18. (Currently Amended) A process for hydrocarbons synthesis according to Claim 13, wherein the coolant used in the heat-exchange zone (2) ~~comprising~~ comprises methanol, ethanol or - mixtures thereof.

19. (New) A process for hydrocarbons synthesis according to Claim 1, wherein said boilable coolant circulated in at least one heat-exchange zone (2) is at a pressure greater than the pressure of the reaction medium.

20. (New) A process for hydrocarbons synthesis according to Claim 19, wherein said boilable coolant is at a pressure between 0.5 and 5 bar higher than the pressure of the reaction medium.

21. (New) A process for hydrocarbons synthesis according to Claim 19, wherein said boilable coolant is at a pressure between 1 and 4 bar higher than the pressure of the reaction medium.

22. (New) A process for hydrocarbons synthesis according to Claim 21, wherein the coolant used in the heat-exchange zone (2) comprises methanol, ethanol or mixtures thereof.